Introduction to Type 72 Gas Mask

Since the advent of helmet-style masks, their simplicity has been a hallmark, and the PBF ShMB mask is truly unique. In China, the Type 72 gas mask series represents the most innovative design of its helmet-style masks. However, the Type 72 series was never officially adopted, and actual examples and related documentation are rare.

The famous German M65 gas mask spawned the Kareta, and both masks were copied in many countries and regions. The Type 72 is one of the Chinese copies of the Kareta or its derivatives. The following image shows the M65, Kareta, Iraqi M85, Vietnamese MV-5, and Taiwanese T62.

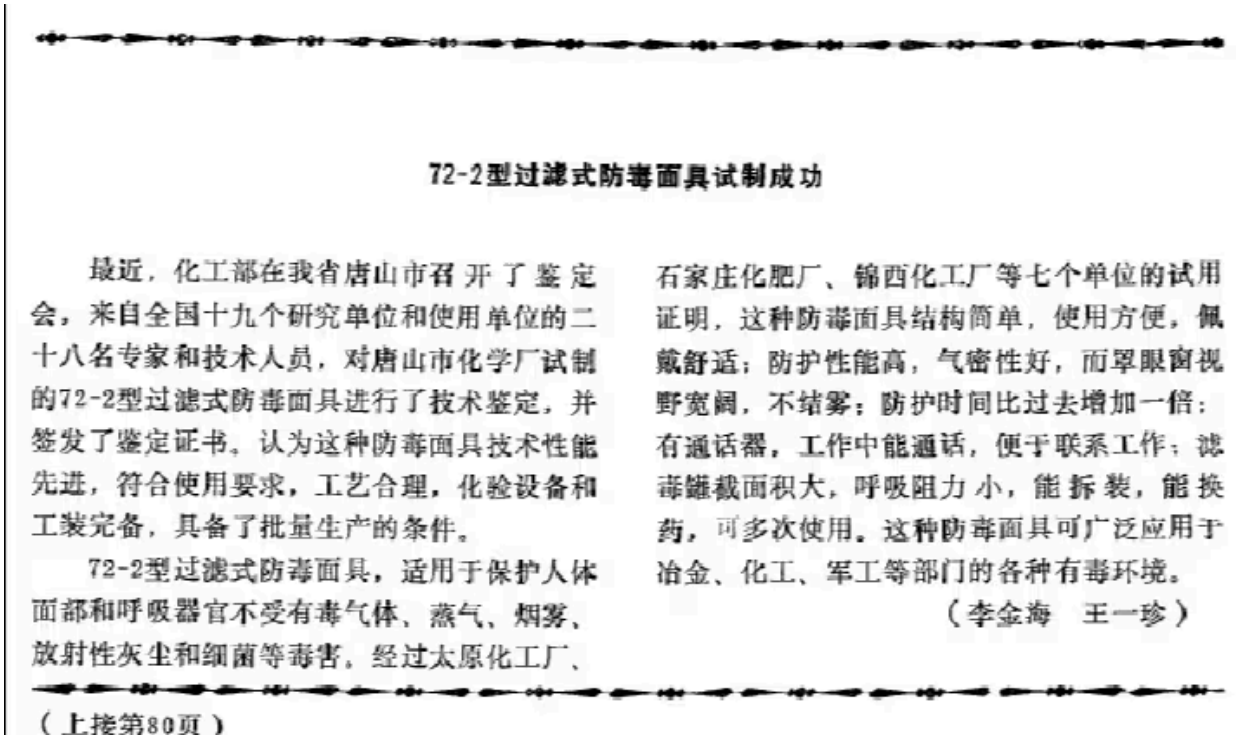
The Shanghai Rubber Products Factory No. 2 and the Tangshan Chemical Plant are known to have produced some version of the Type 72. The Shanghai Rubber Products Factory No. 2 published an advertisement indicating that it produced a more basic version of the Type 72.

The factory's product is called a "Xianhe Brand Filter-Type, Isolation-Type Gas Mask," suggesting it can be used with some type of gas cylinder or oxygen generator. The unusually shaped canister may be disassembled for changing the gas agent. The exhalation valve cover on the actual product shown below also bears the "Shanghai" mark.

The factory's Type 72 is equipped with a Western-style gas tube. Similar domestically produced gas tubes are rare, but a variety exist. The anti-slip pattern on the tube in the upper image is closest to Western products. The gas tube in the lower image is connected to a mask with a ShM-62 series valve box and a 1957 Soviet ShM-41m mask, which is quite strange.

This one is paired with a "Weidong" brand mask, is not covered with elastic fabric, and the interface is bright red.

The publication "Hebei Chemical Industry" published "Successful Trial Production of the 72-2 Filter-Type Gas Mask" on page 84 of issue 1 of 1981, confirming that Tangshan Chemical Plant had developed the 72-2 gas mask. Based on naming conventions, this series may include the 72, 72-1, and 72-2 types.



72-2型过滤式防毒面具试制成功

最近，化工部在我省唐山市召开了鉴定会，来自全国十九个研究单位和使用单位的二十八名专家和技术人员，对唐山市化学厂试制的72-2型过滤式防毒面具进行了技术鉴定，并签发了鉴定证书。认为这种防毒面具技术性能先进，符合使用要求，工艺合理，化验设备和工装完备，具备了批量生产的条件。

72-2型过滤式防毒面具，适用于保护人体面部和呼吸器官不受有毒气体、蒸气、烟雾、放射性灰尘和细菌等毒害。经过太原化工厂、石家庄化肥厂、锦西化工厂等七个单位的试用证明，这种防毒面具结构简单，使用方便，佩戴舒适；防护性能高，气密性好，而罩眼窗视野宽阔，不结雾；防护时间比过去增加一倍；有通话器，工作中能通话，便于联系工作；滤毒罐截面积大，呼吸阻力小，能拆装，能换药，可多次使用。这种防毒面具可广泛应用于冶金、化工、军工等部门的各种有毒环境。

（李金海　王一珍）

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Translation of this picture:
The 72-2 filter-type gas mask was successfully trial-produced

Recently, the Ministry of Chemical Industry held an appraisal meeting in Tangshan City, our province. Twenty-eight experts and technicians from nineteen research institutions and user units across the country conducted a technical appraisal of the 72-2 type filter-type gas mask trial-produced by Tangshan Chemical Plant and issued an appraisal certificate. They believed that this gas mask has advanced technical performance, meets the use requirements, has reasonable technology, and is equipped with complete testing equipment and tooling, and is ready for mass production.

72-2 filter type gas mask is suitable for protecting the human face and respiratory organs from toxic gases, steam, smoke, radioactive dust and bacteria.

Trials at seven facilities, including the Shijiazhuang Fertilizer Plant and the Jinxi Chemical Plant, have proven that this gas mask is simple in structure, easy to use, and comfortable to wear. It offers high protection, excellent airtightness, and a wide, fog-free iris. Its protection time is doubled compared to previous models. A built-in intercom allows for conversations during work, facilitating communication. The gas filter canister has a large cross-sectional area, reduces

breathing resistance, and is removable and reusable, allowing for multiple uses. This gas mask is widely applicable to various toxic environments in sectors such as metallurgy, chemical engineering, and military operations.

(Li Jinhai and Wang Yizhen)

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From this short article, we can conclude that the canister used in the Model 72-2 has a smoke filter layer and replaceable filter media, consistent with the advertising features of the Shanghai Rubber Products Factory No. 2. Specifically, the Model 72-2 features a walkie-talkie. The Model 72 can be found on packaging from the Tangshan Chemical Plant and Tangfeng, and this peculiar design is no random sketch. A closer look reveals that the two designs are distinct; the Tangren brand packaging features a raised window on the mask, more closely resembling the actual product.

The following is a Model 72 mask from a petrochemical plant. Since it is a second-hand mask, it was disinfected with disinfectant and the black stains on the surface were cleaned as much as possible.

The mask has no text other than the size 3 marked in a small diamond on the lower right side.

The inside of the mask is equipped with a circle of reverse curved edges to enhance airtightness and fix the mask in place. This structure is now commonly seen in modern headband masks.

The entire mask is made of no metal, save for four sets of small bolts and nuts. The window is made of a large triangular plexiglass, with a larger exposed portion than the Type 69, possibly predating the triangular window of the MF1A. There's no mechanism for retaining a protective film. The breathing valve is located at the bottom, with a threaded port at the very bottom. There's no intercom.

Traditional sealing methods use metal hoops to clamp the lens and mask together, with rubber pads and adhesive strips used to enhance airtightness. This mask, however, glues the lens, breathing valve, and threaded connector together, then secures them with a plastic ring. This completely prevents metal corrosion, but the plastic ring seems unnecessary. Masks like the ShM-B and ShM-S, for example, have eliminated the ring entirely. Below is an exploded view of the GP-5, lacking the adhesive strip.

This mask takes metal reduction to an extreme. Of the two lugs on the plastic ring, only one has metal threads. Therefore, the correct installation method is to use the threaded lug and the cap end of the screw to sandwich the lug without a nut in between, but the original owner of the mask did not do this. This design also minimizes thread stripping.

The most notable feature of the Model 72 is the replacement of the Y-tube with a half-mask. The half-mask is non-quick-release, with edges that curl inward to fit snugly around the mouth and nose. It features a pair of auxiliary inhalation valves on either side of the top that close during exhalation to prevent moisture from reaching the lenses. During inhalation, air enters the canister through the auxiliary inhalation valves, which push open the inhalation valves. During exhalation, air is expelled through the exhalation valves, which are connected to the half-mask. There are two cylindrical protrusions on either side of the half-mask's exterior, but their internal connections to the mouth and nose cups are unknown.

The expiratory valve is similar to that of a PMG, but it is only one piece and does not have a physiological chamber. There is a plastic mesh between the expiratory valve and the half mask that is difficult to remove.

The threaded interface is very short and has no gasket to enhance airtightness. It is just enough to connect the gas filter canister of the Type 69 mask, but it should be matched with an airway tube, and the number of threads should be increased.

The Model 72 in a popular science book shows its mask bag and detachable gas filter canister.

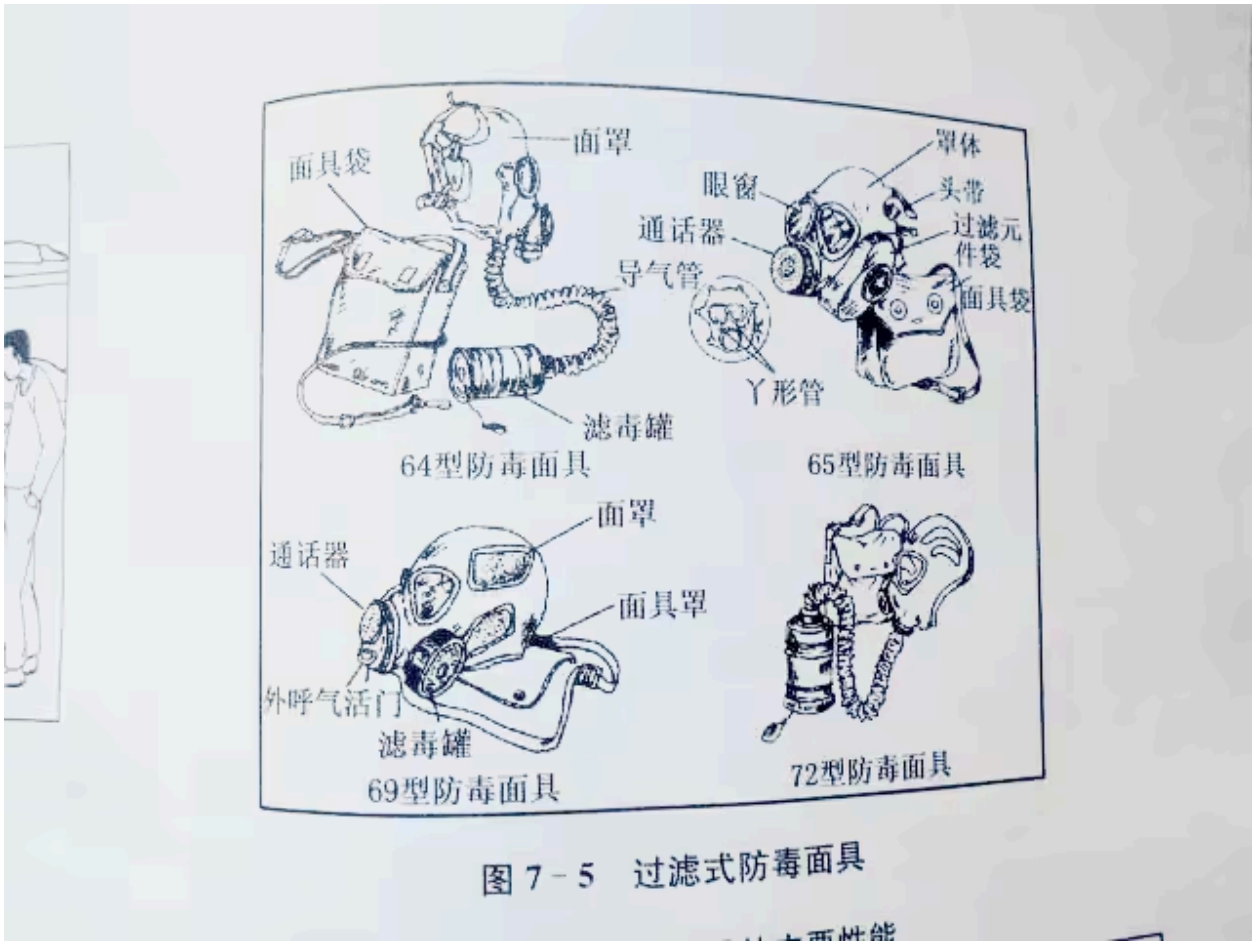

图 7－5　过滤式防毒面具

With Type 69 gas filter canister

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